Increasing Incidence of Ciprofloxacin-Resistant Campylobacter: FoodNet and NARMS 1997-2001

Nelson, J, Baker N, Theriot C, Vugia D, Beebe J, Rabatsky-Ehr T, Segler S, Hawkins M, Smith K, Rourke A, Shiferaw B, Jones T, Angulo F, and FoodNet and NARMS Working Groups

Campylobacter is a major cause of diarrheal disease. Fluoroquinolones (e.g., ciprofloxacin) are used in adults with *Campylobacter* infections; fluoroquinolones are also used in poultry for disease control. Domestically-acquired ciprofloxacin-resistant *Campylobacter* infections in humans in the United States have been associated with poultry consumption.

From 1997-2001, the National Antimicrobial Resistance Monitoring System (NARMS) participating sites forwarded one *Campylobacter* isolate per week to CDC for speciation and susceptibility testing. FoodNet conducted active surveillance to ascertain all laboratory-diagnosed *Campylobacter* infections. Logistic and Poisson regressions were performed to assess the change in ciprofloxacin-resistant *Campylobacter* and incidence of *Campylobacter*, respectively, in FoodNet sites in 2001 compared with 1997.

Sixteen percent (249/1553) of isolates submitted to NARMS from FoodNet sites were ciprofloxacin-resistant. The proportion of isolates resistant to ciprofloxacin in 2001 was 19%, significantly higher than 13% in 1997 [logistic regression OR: 2.4 (95%CI: 1.4, 4.1)]. Concurrent with this increase in resistance, the overall incidence of *Campylobacter* infection in the same population declined 31% (95% CI: 25% to 37% decline) during the same time period.

These data emphasize the need for additional efforts to reduce the frequency of fluoroquinolone-resistant *Campylobacter* infections